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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/941,132 09/30/97 TANAKA

Y 0649-SP0619P

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EXAMINER

ZITOMER, F

ART UNIT

PAPER NUMBER

1713

16

DATE MAILED:

08/11/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

08/941,132

Applicant(s)

Tanaka et al.

Examiner

Fred Zitomer

Group Art Unit

1713

☒ Responsive to communication(s) filed on Jun 4, 1998

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-3 and 7-10 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-3 and 7-10 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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1.

The Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 1713.

2.

Applicant's amendments and remarks of June 4, 1998 are acknowledged. The rejection of record of claims 1-3 and 7-10 under 35 U.S.C. § 103 over Tanaka et al. taken with Kondo et al., and Burlett et al. or Hayashi et al. is maintained as stated below. New rejections of claims 1-3 and 7-10 are given under 35 USC 112, first and second paragraphs, in view of applicant's amendments as stated below. No claim is allowed.

3.

Claims 1-3 and 7-10 are rejected under 35 U.S.C. § 103 as being unpatentable over Tanaka et al., EP-A- O 584 597 taken with Kondo et al., U.S. Patent 4,208,490, and Burlett et al., U.S. 5,118,546, or Hayashi et al., U.S. 4,528,340.

The claimed invention relates to natural rubber which has been deproteinized and then modified by grafting and epoxidation. All of the procedures are generally known in the art and their present coupling is deemed obvious for the additive effect. More directly, Tanaka teaches deproteinizing natural rubber to nitrogen levels below 0.02% by weight to remove allergens and enhance physical properties [Table 1, Example 1, claim 2, page 2, line 52 - page 3, line 11].

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Kondo teaches enhancing the physical properties and appearance of natural rubber by grafting with methylmethacrylate [column 2, line 61 - column 3, line 49; column 4, lines 24-28]. There is no limitation on the proportion of rubber to grafted monomer, however, a 3-60 % range of rubber content by weight is preferred [column 3, lines 30-34] which appears to fall within the present graft ratio range of 26.5-36.7. It is generally known in the art to epoxidize rubber to enhance properties such as hydrophilicity. Hayashi e.g. teaches epoxidizing rubber in the range of 5-60% [column 3, lines 3-25] while Burlett teaches epoxidizing rubber in the range of 15-85% [column 2, lines 5-17]. It would have been *prima facie* obvious to deproteinize, graft and epoxidize rubber for the additive effect, i.e. in the expectation of reducing allergens and enhancing physical properties, because each embodiment and the advantages thereof was known at the time the instant invention was made.

Applicant's arguments filed June 4, 1998 have been fully considered but they are not persuasive. The essence of said arguments is that Tanaka fails to disclose the present graft efficiency and epoxidation ratio while Kondo and Burlett or Hyashi fail to disclose deproteinized rubber. By way of reply applicant's arguments are directed against the references individually. In this regard it has been held that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Further:

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- it is noted that the revised graft efficiency appears to be an expression of the graft ratios previously claimed and nothing on this record shows that the present polymers have graft efficiencies different from those of Kondo.

- notwithstanding that the five hour epoxidation ratio is indefinite and non-enabled nothing on this record shows that the property is not disclosed by the polymers of Hayashi or Burlett.

The key point remains that the essential distinguishing feature of the claimed invention is the nitrogen content of the natural rubber, a known and obvious embodiment, and adding superfluous limitations to the properties of the starting materials merely obfuscates the issues.

4.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-3 and 7-10 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

It is not clear where in the specification an “epoxidation ratio per five hours”, emphasis added, is described.

5.

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Claims 1-3 and 7-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1: at the penultimate line, the limitation "per five hours" is not understood. Absent the specification of conditions, e.g. temperature, epoxidation agent, solvent, pressure, etc., it is not clear how the claim is further limited by the claimed time constraint.

6.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


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7.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Zitomer whose telephone number is (703) 308-2461.


FRED ZITOMER
PRIMARY EXAMINER
GROUP 1500

Zitomer/fz
August 7, 1998